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On the Paradox of Gestalt Switches: Wittgenstein's Response to Kohler

Naomi Eilan

Wittgenstein formulates the paradox of gestalt switches thus: 'What is incomprehensible is that *nothing*, and yet *everything* has changed, after all. That is the only way to put it'. In the course of isolating what I take to be the best of the various solutions to the paradox explored by Wittgenstein, the following claims are defended. (a) A significant strand in Wittgenstein's own formulation of, and solution to, the paradox can best be understood as a response to three specific claims made by the Gestalt psychologist Kohler. (b) The most promising avenue Wittgenstein explored in his many attempts to resolve the paradox gives perceptual attention a constitutive role in the solution (c) This role is best elaborated, partially, by appeal to information processing theories of attention. (d) There are good reasons to think that the kind of solution to the paradox this yields would have been welcomed by Wittgenstein.

On the Paradox of Gestalt Switches: Wittgenstein's Response to Kohler

Naomi Eilan

What is incomprehensible is that *nothing*, and yet *everything* has changed, after all. That is the only way to put it. Surely this way is wrong: it has not changed in one respect but has in another. There would be nothing strange about that... (RPP II, §474).

1. Introduction

Consider the following figures.

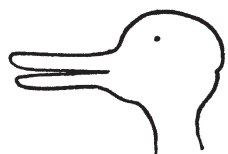


Figure 1



Figure 2



Figure 3

The first, the 'duck-rabbit', can flip backwards and forwards between being seen as a duck and as a rabbit; the second, the 'double-cross', between being seen as a white cross against a black background, and a black cross against a white background; and the third, the 'Rubin-vase', between being seen as a vase and as two profiles. These are classical examples of the kind of ambiguous pictures that the Gestaltists used to drive home the importance of a phenomenon that previous psychologists working on vision had, they thought, overlooked, the phenomenon of 'organization'. Wittgenstein described such switches as switches or

changes of 'aspect', and used the term 'organizational aspects', in deference to the Gestaltists, to describe switches like the second and third. The latter are the 'Gestalt switches' in the title, and are the kind of aspect switches that will be our concern in what follows.

The 'paradox' above is, according to Wittgenstein, an expression of what we want to say, in the first instance, when reflecting on the phenomenology of all aspect switches, including non-organizational ones. But highlighting the paradox is also the first step in Wittgenstein's response to the Gestaltists' theoretical treatment of organizational phenomena, figure/ground segregation being one important instance of these. In particular, he held that several specific theoretical claims made by Kohler falsified the phenomenological datum, as expressed by the paradox. One exegetical proposal I will be making is that a great deal of what Wittgenstein has to say on aspect switching, and on 'seeing as' in general, falls into place if we treat Kohler as the interlocutor. In the *Investigations* he is mostly unnamed as such, but in other writings there are frequent references to him, in the course of relentless, repeated attempts to come to grips with the phenomenon.

The interest in focusing on Wittgenstein's relation with Kohler goes beyond exegesis, though. One thing to emerge from tracing the roots of his remarks on aspect switches back to responses to specific claims made by Kohler, is, I will be suggesting, an approach to the relation between philosophy and psychology which differs substantively both from many current approaches, and from that conventionally ascribed to Wittgenstein himself. With respect to the former: on a view made famous by David Chalmers, we have two independent concepts of perception in general and vision in particular—a psychological, functional one, and a purely phenomenal one. The 'hard problem' of consciousness is how to make sense of the location of the referents of the second in the natural world. The approach that emerges from Wittgenstein's

treatment of the phenomenon of aspect switches is radically different. On this view, our concept of vision 'leaves a tangled impression', there are similarities and differences and complicated relations between different ingredients in it, and the hard problem here is that we do not command an overview of these complicated inter-relationships. As I see it, this would apply with a vengeance to the relation between phenomenally-informed ingredients in our everyday concept of 'seeing', on the one hand, and 'vision', as used in current work in vision science, on the other. The hard problem, on this approach, is a meta-problem of finding our way around our concepts, rather than a metaphysical one stemming from a clear division among them. Or, rather, if there is a metaphysical problem, it is somewhere down the line from the more urgent conceptual one.

As to interpretations of Wittgenstein: the *Investigations* ends, famously, with the claim that the 'confusion and barrenness in psychology' is not down to it's being a 'young science'. What will emerge in discussion is that at least some of the confusions Wittgenstein was battling against were, precisely, down to the youth of the science at the time he was writing. To say this, though, is not to say that the conceptual issues have simply disappeared. But it is to say they have changed as a result of empirical developments. In saying this, I take myself to be adopting Wittgenstein's own general attitude to the relation between philosophy and psychology, and it is this that I think is of lasting value, independently of his very interesting substantive comments on aspects. To view Wittgenstein in this way is, of course, to go against the grain of much commentary on Wittgenstein. I will not try to rebut the opposing view head-on, but hope that both the details of his debate with Kohler, and a particular solution I will propose for his puzzle, which draws on current work in psychology, will help to give a sense of why I think this is wrong.¹

The plan of the paper is as follows. In the next section I briefly summarise key points made by the Gestaltists, Kohler in particular, and isolate three claims Kohler made that were of particular interest to Wittgenstein. In the subsequent two sections I set out Wittgenstein's response to them, and then go on to show how he used the tools deployed against Kohler to address the paradox. More specifically, in these sections the suggestion will be that key conceptual distinctions he makes between different senses of 'see' are motivated by his response to what he takes to be Kohler's failure to do justice to the paradox.

As we shall see, though, this only takes us so far in understanding what Wittgenstein was trying to do with organizational aspects. The specific suggestion pursued in the second half of the paper is that in his attempts to grapple with the phenomenon, he went well beyond these conceptual distinctions and introduced substantive claims about the nature of organizational aspects, and their difference from other phenomenal properties of experience. Or, rather, he put forward for consideration several distinct approaches to these differences, never settling on one account. One particularly interesting suggestion he makes is that aspects are linked to attention in a way other phenomenal properties of experience are not, and that this is key, somehow, to solving the paradox. My chief suggestion will be that there is a way of developing this idea into a solution to the paradox which, though distinct, indeed almost the reverse from any that might plausibly be attributed to Wittgenstein, draws critically on some of his insights. It also draws critically on current work in psychology of a kind not available to him at the time he was writing, but which, in my view, he would have welcomed.

Before beginning, to set the tone for the exegetical part of the paper, and to get a measure of how deep Wittgenstein's preoccupation with Kohler was, I want to have before us the following two sets of quotes, from Kohler and Wittgenstein respectively.

I. Kohler

(In physics) it is often difficult to discover the most important facts because they are hidden...It seems to me that in psychology the greatest obstacle is quite the opposite. Often we do not observe the most important psychological facts because they are too commonplace, because their presence at every moment of our lives blinds us to them. (Kohler 1929, 148)

‘Most of the observations of Gestalt psychology are of this kind: They touch on facts of such general occurrence in our everyday life that we have difficulty in seeing anything remarkable in them.’ (Kohler 1930, 146)²

II. Wittgenstein

The aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something—because it is always before one’s eyes). The real foundations of his inquiry do not strike a man at all. Unless that fact has at some time struck him. — And this means: we fail to be struck by what, once seen, is most striking and most powerful. (*PI*, §129)

We find certain things about seeing puzzling, because we do not find the whole business of seeing puzzling enough. (*PI IIxi*, 213)

Despite the deep echo, Kohler is not mentioned in the immediate context of the quotes from Wittgenstein. The remarks are too close, though, to be sheer coincidence, in particular as there is much evidence that Wittgenstein was preoccupied with Kohler when these comments were written. Of course, in Wittgenstein’s hands they took on a different flavour. One very crude way of summarising the relation between Kohler’s and Wittgenstein’s versions is that, without acknowledging their source, Wittgenstein is turning their import against the Gestaltists themselves. They

stray, he thinks, from pressing on and on with the familiar, missing some of its truly puzzling features, partly by making a move that dissolves the paradox before it gets going, thereby missing out on the illumination that can be gained from facing it head on.

Before setting out the details of Wittgenstein’s response to Kohler, a word of caution. There are, according to Wittgenstein, many different types of aspects, introduced largely recessively, via different requirements on noticing changes in aspect. Some such noticings require concepts, others do not; some require familiarity with past instances, others do not; some require imagination, others do not, and so forth. Given this variation, there is no reason to expect there to be a single, uniform account of the role of aspects in seeing, nor that what is interesting about aspects is the same in all cases. It patently isn’t. Our concern will be exclusively with ‘organizational aspects’. Wittgenstein says of these, variously, that they are ‘purely optical’, ‘primitive’ (*PI IIxi*, 208) (both terms used by Kohler, incidentally), ‘almost automatic—it is as if an image filters across the perception’, and ‘fundamental’ (*LW*, §698). The suggestions I will be making henceforth about Wittgenstein’s approach to aspects and his worries about them, apply to these only, in particular to figure/grounds segmentations. There are additional, fascinating and partially overlapping problems raised by conceptually-informed aspects, but I will have nothing to say about these.

2. Kohler on visual perception

According to Koffka, one of the founding fathers of the Gestalt movement, ‘the problem for theories of visual perception is to address the question: why do things look as they do?’ The first step in this enterprise is to get right our description of how things look. The Gestaltists’ chief target on this front were the structuralists or introspectionists, Titchner and his followers, whose description of

how things look was according to the Gestaltists, fundamentally misconceived. On these theories, the elements of visual experience correspond one-to-one to points of retinal stimulation, and it is these elements that determine how things look. The 'constancy hypothesis' they endorsed says that experience, in its pure form, remains constant so long as retinal stimulation remains constant. Everything else we commonly include in our descriptions of how things look, in which we employ concepts that refer to the external world, is the product of association and interpretation. Given the pervasiveness of the latter, therefore, in order to detect these units subjects need to be trained in the practice of pure, specialized introspection, which removes all meaning, interpretation and association from their experience.

It is this division between sensations that mark our 'pure experience', on the one hand, and interpretation on the other, that was the Gestaltists' target. With respect to sensations, the Gestaltists held that '[the] sensations of introspective analysis are parts existing only in construction and theory' (Kohler 1929, 183). As to the jump from sensation to interpretation, what is missed out, they held, is a level of phenomenal reality which cannot be accounted for either by appeal to sensations or by appeal to interpretation. More specifically, what this division obscures from view is the way in which as a matter of phenomenal fact '[i]n most visual fields the contents of certain areas "belong together", so that we have circumscribed, or bounded, units before us, from which the surroundings are excluded' (Kohler 1929, 149).

The 'belongings together' that they set out to describe fall into two classes: the grouping phenomena, e.g. when dispersed dots can seem to be grouped into rows or columns, and figure/ground segmentation. The latter is the one that concerned Wittgenstein most, so a few words on how the notion of 'belonging together' applies here may be useful.

Consider the Rubin vase. You can see it either as a vase, or as two profiles, but never as both at the same time. That this is so is the consequence of the way in which lines in the visual region 'belong' to the area that is perceived as figure. In current psychology this phenomenon is often referred to as 'border ownership' or the 'one sidedness of edges'. One method Rubin used to drive this home has since been much replicated and refined. Subjects are first shown ambiguous figure/ground pictures and subsequently shown unambiguous pictures of the shape either of the background or of the figure in the original pictures. While they are easily able to reidentify shapes of areas originally seen as figures, there is complete failure to do so for shapes of areas initially seen as ground—the lines count as borders of shapes only for the areas picked out as figure. (See Baylis and Driver 1995 for developments and refinements).

These were the kinds of phenomenal features the Gestaltists were drawing attention to with their battle cry of 'back to the familiar'—features so pervasive, they held, that no-one had noticed them. There are three particular ingredients in Kohler's way of developing the case for treating these features as fundamental, which I will label for convenience, and which are central to understanding Wittgenstein's response to Kohler. I set them out in this section, and in subsequent sections consider Wittgenstein's response to them, as background both to his formulation and to his disarming of the paradox.

(1) The New Object Claim

Consider again the Rubin vase. The introspectionists would say that experientially, given that the point-by-point stimulation remains the same before and after the switch, there is no difference between the constituents of the experience in the two cases. The difference is, therefore, one of association or interpretation. It was

partly in order to rule out this kind of response that Kohler insisted that in each case we are faced with a *new visual object*. There is nothing carried over, visually speaking, to be interpreted differently. As he puts it:

So long as we *really* have the first one, i.e., as existing in vision, the other will be absorbed in the general surroundings, which optically have *no real form* at the time. When the second form becomes a visual reality, the first disappears. (Kohler 1929, 198)

In a case he uses to drive home this point, which Wittgenstein picks up on, in which one might flip from seeing Italy against the background of the Mediterranean, to seeing the sea as an object (with an unfamiliar shape) and Italy as part of the background, he says that when such flips occur one is experiencing 'one concrete, real form and then another' (Kohler 1929, 196). If this is the correct description of what is happening, then, as intended to be read by Kohler, the introspectionists' claim is wrong—there is nothing visual in common between the first and the second perceptual experience.

(2) The Pure Vision Claim

Upon the present time there has been a tendency to regard the remarkable properties of wholes as the achievement of 'higher' processes. From the viewpoint of Gestalt theory, however, sensory organization is as natural and primitive a fact as any other side of sensory dynamics. (Kohler 1929, 216)

It was in this context that the Gestaltists claimed that groupings and segregations are independent of 'meaning', concepts, background knowledge about familiar objects, and so forth, denying thereby what the introspectionists would have said about them. According to the Gestaltists, the organizational phenomena are

'primitive' and 'purely visual'. As a demonstration of this Kohler refers us to cases in which organization occurs even though we have no idea what the object is that is singled out. (See, e.g. Kohler 1929, 152).

(3) The New Concept Claim

According to Kohler, in order to do justice to what he described as 'visual reality' we need a new set of concepts, namely those of 'organization' and 'belonging together', concepts appropriate to this reality only, in contrast both to those needed for describing the physical world, and to those used by the introspectionists to describe the visual array, namely those of 'punctate sensation', 'point-to-point point matching', etc.

All three claims occupied Wittgenstein (though not under these labels). Very roughly, his complaint against the Gestaltists can be summarised as follows. The New Object Claim results in falsifying the basic phenomenological datum, the paradoxical nature of aspect switching. Most of the blame for the New Object Claim is laid at the door of the Pure Vision Claim, though the New Concept Claim plays its part too. Moreover, the materials needed for showing what is wrong with the Pure Vision Claim are precisely those we need for disarming the paradox. In the next two sections I look at his complaints against the Gestaltists' first two claims in more detail, and then return to his own way of dealing with the paradox. The New Concept Claim will be picked up later on.

3. Wittgenstein on the New Object Claim

When one fails to recognize the Mediterranean on the map with different colouring, *that* does not show that there is *really* a different visual object before one (Kohler's example). (RPP I, §1035)

Well, perhaps it doesn't. But what is wrong with describing what is going on in this way? Wittgenstein has two main objections. The first and simplest, which I will call the Objection from Phenomenology, just is a statement of the paradox: 'What is incomprehensible *is that nothing*, and yet everything *has changed*, after all. That is the only way to put it...'. If we say we are seeing two different objects, one before and one after the switch, we distort an element of the phenomenology of aspect switches that Wittgenstein regards as essential to it. As we stare at the Rubin vase, say, flipping from perceiving the vase to perceiving the two profiles, one thing that is certain is that we are aware that in some basic sense the object we are perceiving *has not changed*, which is precisely what the postulation of a new, post-switch object does not allow for.

Wittgenstein appears to regard this feature of aspect switches as non-negotiable. His attempts to disarm the paradox, therefore, and to account for what is happening when aspects switch, focus almost exclusively on getting right the second half of the paradox, the sense we have that everything has changed. It is these 'everything's' that he labels the 'aspects', a subspecies of which are the organizational aspects the Gestaltists were interested in.

The second objection to the New Object Claim, which follows on from the first, emerges in his critique of the way Kohler makes the case for the New Concept Claim. In the course of making his case against the introspectionists, Kohler says:

At a given time some concrete forms are simply there in vision, no less than colours and brightness. (Kohler 1930, 150)

To which Wittgenstein responds:

'Object' and 'ground' —Kohler wants to say — are visual concepts, like red and round. The description of what is seen includes mentioning what is object and what is ground no less than colour and shape.

And the description is just as incomplete when it isn't said what is object and what ground, as it is when colour and shape are not given. I see the one as immediately as the other - one wants to say. And what objection is there to make on this? (RPP, §1023)

A major objection Wittgenstein considers is this:

If you put the 'organization' of a visual impression on a level with colours and shapes, you are proceeding from the idea of the visual impression as an inner object. Of course this makes this object into a chimera; a queerly shifting construction. ... (PI IIxi, 196)

The reasoning here, I think, is something like the following. If you put the change in organization on a level with change in colour or shape you will need to postulate two distinct objects of perception, one for before and one for after the switch. For, just as an object cannot have two shapes or be two different colours all over at the same time, so it cannot have two organizations at the same time, if organization is treated in the same way as colour and shape are. Wittgenstein's claim then is that Kohler is led to postulate two inner objects because part of the phenomenology of aspect switching is that we see, when noticing an aspect change, that the *external* object hasn't changed, so we need different objects, something other than the external objects, to be the immediate objects of vision, the bearers of the changed organizational properties. And Wittgenstein's complaint here follows on from the first. The unchangingness of the external object is an essential component of the phenomenology of aspect change. To throw it away is to change the subject and to elide the hard question about the familiar phenomenon in question: how to explain the radical changes that our phenomenology seems to undergo while holding onto the sameness of the object as perceived. There is no denying the naturalness of describing the experience as one in which the object

changes before one's very eyes (*LW I*, §597). But that this is so is part of the problem, rather than part of the solution.

4. Wittgenstein on The Pure Vision Claim: The Conceptual Turn

It is possible to distinguish three stages in Wittgenstein's response to the Pure Vision Claim. I discuss the first two here, and the third in the next section, when looking at his solution to the paradox.

(1) The first step is to concede the complete naturalness of describing changes in organization as visual.

If someone says: "I am talking about a visual phenomenon, in which the visual picture, that is, its organization, does change, although shapes and colours remain the same" —then I must answer him: "I know what you are talking about. I too should like to say that".

But to say that is not to concede much. For if that is all there is to it, then

If you only shake yourself from physiological prejudices, you will find nothing queer about the fact that the glance of the eye can be seen too. For I also say that I see the look that you cast at someone else. And if someone wanted to correct me and say that I don't really see it, I should take that for pure stupidity. (*Zettel*, 223)

Or, as he puts it elsewhere, 'It is [in such cases]—contrary to Kohler—precisely a meaning I see' (*RPP I*, §869). The point is that not much can be extracted from the naturalness of using 'see' in any particular connection. We use 'see' for many kinds of experiences which take all kinds of different 'objects'. The key here is in the continuation of the *Zettel* passage just quoted. After saying it would be stupid to deny one can see glances, he writes:

On the other hand I have not *made any admissions* by using that manner of speaking, and I should contradict anyone who told me I saw the glance 'just the way' I see the shape and colour of the eye.

For 'naive languages', that is to say our naïve, normal way of expressing ourselves, does not contain any *theory* but only the concept of seeing.

The first point, then, is this. No theory about the nature of vision and/or its 'real' objects can be extracted from the naturalness of our using the concept of 'seeing' in various connections.

(2) In the passage in which he concedes the naturalness of talking about changes in organization as visual changes, Wittgenstein introduces his next move.

So I am not saying, "Yes, the phenomenon we are both talking about is actually a change of organization..." but rather "Yes, this talk of change of organization etc. is an expression of the experience which I mean too."

Similarly, the continuation of the section in which he says Kohler is wrong to say that the switch in aspects when viewing the map of the Mediterranean means that we have two objects, he says the following:

At most that might give a plausible ground for a *particular way of expressing oneself*. For it is not the same to say "That shews that here there are two ways of seeing": —and "Under these circumstances it would be better to speak of 'two different objects of sight'".

Finally, the passage in which the paradox is introduced ends with these words:

But "Nothing has changed" means: Although I have no right to change my report about what I saw, since I see the same things now

as before - still, I am incomprehensibly compelled to report completely different things, one after another.

The move he is making in all three cases is neatly summarised in the following two passages:

“But this isn’t *seeing* !”—“But this is seeing!” It must be possible to give both remarks a conceptual justification. (*PI IIxi*, 230)

“Is it a *genuine* visual experience?” Here it is *difficult* to see that what is at issue is the fixing of concepts. A concept forces itself on one. (This is what you must not forget) (*PI IIxi*, 204)

The positive, substantive point he is making here, distinct from the first, is this. At least some of the Gestaltists’ debates with the introspectionists appear to rest on claims about what ‘seeing’ means, rather than being empirical debates about the nature of the phenomena they are describing. But that this is so is *difficult* to see. And the reason it is difficult is that if there is anything more familiar than the experiences that the Gestaltists describe, aspects of which we tend to ignore precisely because of their familiarity, it is the *concepts* we use to describe them, which we simply ‘look through’ in debating the nature of the phenomena they refer to. Obviously, such transparency is essential for thought and talk to so much as get going. But there are occasions when it is actually the very concepts we are looking *through*, rather than the phenomena we are using them to look *at*, that are the cause of the problem, the unnoticed topic of debate. Our first move in examining the Gestaltists’ account of the phenomena of aspect switching should be to step back and see which of their disputes with the introspectionists are due to emphasizing different ingredients in our concept of ‘seeing’.

5. Solving the Paradox: The Conceptual Turn Put to Work

Summing up his strategy for dealing with debates about what is the domain of the purely visual Wittgenstein writes:

The question what do you see? gets for an answer a variety of kinds of description. - If now someone says: “After all, I see the aspect, the organization, just as much as I see shapes and colours” —what is that supposed to mean? That one includes all that in ‘seeing’? Or that here there is the greatest similarity? And what can I say to that matter? I can point out similarities and differences. (*RPP I*, §964)

Once we turn our attention to the concepts we use, once we take the conceptual turn, we can begin to notice similarities and differences between different specific uses of ‘see’. The passage that opens the discussion of seeing in *PI II* announces simultaneously a diagnosis of a specific conceptual mistake Wittgenstein thinks Kohler is making, and a potential, semi-formal solution to the paradox.

Two uses of the word “see”.

The one: “What do you see there?”—“I see (and then a description, a drawing, a copy). The other: “I see a likeness between these two faces”—let the man I am telling this to be seeing the faces as clearly as I do myself.

The importance of this is the difference of category between the two ‘objects’ of sight. (*PI IIxi*, 193)

One example of many of the application of this distinction is this:

If I saw the duck-rabbit as a rabbit, then I saw: these shapes and colours (I give them in detail)—and I saw besides something like this: and here I point to a number of different pictures of rabbits.—This shows the difference between the concepts. (*PI IIxi*, 196/7)

Let us call the first sense of 'see' 'object seeing' and the second 'aspect seeing'. Then, in these terms, Wittgenstein's diagnosis of Kohler's New Object Claim is this. What makes Kohler say that we are confronted with a new concrete visual object after the switch is the complete naturalness of saying that we *see* the new organization, and hence, that it must be borne by a new concrete object. Wittgenstein's succinct reply is that when we find it natural to say that we *see* the organization we are using 'see' in the second sense: the 'object' we are seeing is not a concrete individual but an abstract likeness. Though this is certainly an experience, it has thought in it. According to Wittgenstein, what is happening when Kohler insists we see a new object for each aspect is that 'one kind of concept is making trouble for another' (*RPP II*, §444).

It seems clear that one of Wittgenstein's main reasons for focusing on this relatively rare experience is that it is the kind of experience Kohler appealed to in making his case for the claim that we see new objects when changes in organization occur. Wittgenstein devotes much time to agreeing with him that 'seeing as' is not interpretation—we can come to *see* a triangle as standing on its apex, we don't just decide to interpret it in this way, but argues that the dichotomy between seeing and interpreting blinds us to the existence of a concept, and a phenomenon it refers to, that is neither interpretation nor simple seeing, but akin to both. 'The concept lies between that of seeing and thinking, that is...bears a resemblance to both; and the phenomena...are akin to those of seeing and thinking' (*RPP II*, §462). "'Seeing as' is not part of perception. And for that reason it is like seeing and again not like...If you are having the visual experience ...[of a dawning of an aspect] you are also *thinking* of what you see' (*PI Ixi*, 197). Or, as he puts it elsewhere 'here we must be careful not to think in traditional psychological categories, such as simply dividing experience into seeing and thinking; or doing anything like that' (*LW*, §542).³

Turning now to the paradox, it is tempting to see pp. 196-200 of *PI Ixi* as an application of the distinction between the two uses of 'see' to the paradox. Applying the distinction, we get something like the following semi-formal resolution of it. When I say that nothing has changed in what I see, I am using 'see' in the first sense, and I mean that the physical object, as seen, and its apparent shape and colours, have not changed. When I say that everything has changed in what I see, I am using 'see' in the second sense, and what has changed is that now I have a new kind of experience, overlaying the first, in which I see, in this second sense, a likeness, or what Wittgenstein in other places calls 'an internal relation' to an object-type or property. (As in, e.g., '—but what I perceive in the dawning of an aspect is not a property of the object, but an internal relation between it and other objects' (*PI Ixi*, 212). When the picture flips back again, I continue seeing the object, in the first sense, but have a new aspect-seeing experience, in which I 'see', in this second sense, a different similarity.

6. Going Beyond the Conceptual Turn

Were Wittgenstein wholly satisfied with this form of solution to the paradox this might have been the end of the story; paradox resolved and Kohler's mistake diagnosed—and we would not have had pages and pages of him worrying away at the phenomenon itself. But the fact is that we do have these pages, and what we find in them is something that goes well beyond pointing out a confusion between two senses of 'see'. The general form of the worry they give voice to might be introduced by imagining the following response from Kohler.

Suppose it is right that when an aspect dawns and one says that one sees a new organization, one is using 'see' in its second sense. Suppose even, for the sake of argument, that the diagnosis of the mistake underlying the New Object Claim is accepted. On

the face of it, this move, as so far described, leaves a major issue unaddressed, namely what we say about the experiences that precede this kind of reflective awareness. And it is with respect to this question that Kohler would have claimed that there are real phenomenal changes that occur *prior* to the dawning of an aspect, which have not been accounted for and which are, moreover, those that concerned him (for example the switch from object-seeing a white cross against a black ground to object-seeing a black cross against a white one). His second point would be that the correct description of the phenomenology of each of these preceding experiences must refer to the different organizational aspects of each. For example in the case of the double cross, in one experience the borders belong to the black area of the picture, in the other to the white. That is, it is true of each experience of object-seeing that we must refer to its distinctive organizational properties in doing justice to its phenomenology. Finally, Kohler may well have continued, when we have the kind of reflective experience Wittgenstein describes, to which he refers using the second sense of 'see', it is the fact that these earlier experiences have two different organizations that makes it the case that one rather than another phenomenal similarity is salient to the subject, and it is such similarities, made salient by organizational properties, that get noticed when an aspect dawns.

To say all of this is to say, at least, that there is prior phenomenal change that falls within the scope of what he refers to as 'object seeing'. Call this the Prior Change Claim. Suppose it is true, the challenge then is this. If it is wrong to say that these distinct organizational properties are borne by different objects, we need a different account of how they enter into the phenomenology of ordinary object seeing.

Now, on one way of reading Wittgenstein, arguably suggested by the texts we have been examining, he would have given a radically reductive response to this challenge, and simply denied the

Prior Change Claim. On this approach, organizational features, considered as ingredients in phenomenology, come in only *post hoc*, as part of the experience of an aspect dawning, and should be referred to only as part of the account of what it is to undergo this kind of experience. Reference to organizational properties and to real changes therein has no role at all to play in specifying the phenomenology of simple object-seeing.

While this kind of response may fit in with the general tenor of his response to Kohler, as so far outlined, and with general moves Wittgenstein makes elsewhere in the philosophy of mind, his repeated attempts to deal with organizational phenomena suggest, at the very least, that he wavered between it and adoption of the Prior Change Claim and the related attempt to meet the challenge that ensues. More specifically, as I read him, he appears in many places to hold that the Gestaltists were onto something with their New Concept Claim, which says that there are concepts, in particular that of 'belonging together', that apply, in some way, to visual experiences of objects, not in virtue of properties of the external physical object, as perceived. If anything, he thought that the Gestaltists were not baffled enough by how to explain their applicability to experience. For once we rid them of a distinctive internal object as a bearer, as he argues we should, there is a deep puzzle as to what to do with them, how to explain both what they are and how they contribute to the phenomenology of vision. This is a puzzle that, as we shall see, continued to occupy Wittgenstein in a way that can best be explained by seeing him as taking seriously, if only for the sake of argument, something like the Prior Change Claim.

What about that which remains the same? Wittgenstein repeatedly says that when we experience a switch in organizational aspect, shape and colour remain constant. This ingredient in Wittgenstein's approach is well brought out by Malcolm Budd, who writes that in the case of aspect switching that interested Wittgen-

stein, 'the appearance of the item does not seem to change with respect to colour, two- or three-dimensional shape, distance or distance of any of its parts from the perceiver. It is because the appearance of the item does not change in any of these ways that the transition from seeing it one way to seeing it another way is puzzling' (Budd 1989, 89).

Here too, though, two possible readings may be distinguished. On one, it is only *post hoc*, in the experience of the dawning of an aspect, referred to by the second use of 'see', that one comes up, on experiential reflection, with the idea of a common phenomenally presented object which retains the same shape throughout all the changes. In particular, the shapes and colours that remain the same are constructed *post hoc*, for example by appeal to the distribution of lines and colour patches in the double cross case. On the other reading, which we may label the Prior Sameness Claim, it is a phenomenological fact about the experiences of object-seeing that precede the dawning of an aspect, that the object, its shape and colours, as presented, remain the same throughout changes in aspect. When an aspect dawns we become aware of that fact too, as opposed to constructing it *post hoc*.

Obviously, once we have before us the distinction between prior and *post hoc* readings of both the sameness and change claims, various combinations are possible, both in their own right, as responses to the paradox, and as interpretations of Wittgenstein. I will not attempt here to consider all possible permutations, in either respect. For the purposes of the issues I want to pursue in this paper, I will consider texts that support the attribution to Wittgenstein of both the Prior Change and Prior Sameness claims. And, in order to focus discussion, it will help to read the combination of the Prior Change and Prior Sameness claims as an endorsement of the following two additional claims.

The first is a claim to the effect that we need a two-tier account of the phenomenology of at least some cases of everyday object

seeing, an aspectual/organizational tier and a non-aspectual tier. One kind of aspect is organizational and this is the one that will concern us. The non-aspectual tier include shape and colour, I will focus mainly on the former. Call this the 'Two-Tier Claim'. The second is the idea that apparent colour, and, most interestingly, shape, remain (really) constant when organizational aspects change. Call this the Constancy Claim.

In the remaining sections of the paper, I examine links between, on the one hand, various passages in Wittgenstein that might be read as attempts to develop both claims (though not under that description) and, on the other, current and past work on related problems in psychology—leading up to a sketch, in the last section, of an alternative solution to the paradox.

7. Shape, Aspects and the Will

The Constancy Claim is, *prima facie*, very surprising, in particular with respect to shape. For surely, changes from seeing two profiles to seeing a vase, for example, are changes in apparent shape. This is certainly how the Gestaltists treated them, and this seems, intuitively, right. The official justification for insisting that in all cases of aspect switching, apparent shape remains constant turns on the idea that aspect change is subject to the will, and that shape perception is not. Here are some comments on this topic.

What Kohler does not deal with is the fact that one may look at figure 2 [the double cross] in this way or that is that the aspect is, at least to a certain extent, subject to the will. (*RPP I*, §971)

Now, in fact, Kohler was of course perfectly aware of the fact that 'attitude' as he put it could influence which organization was seen. But he thought of this as an incidental, causal feature, which

worked by effecting changes in the brain of the kind that might be brought about spontaneously. And this is what Wittgenstein is really objecting to, as he makes clear in the following passage.

.... I mean voluntariness seems to me (but why?) not to be a mere addition as if one were to say: "This movement can, as matter of experience, also be brought about in this way." That is to say, it is essential that one can say 'Now see it like this and "Form an image of" ... (RPP I, 899)

Why, then, is subjection to the will essential to aspects? And why is their link with the will such that it excludes shape perception from being aspectual? Here are some answers he considers.

(a) "The aspect is subject to the will". This isn't an empirical proposition. It makes sense to say, "See this circle as a hole, not as a disc", but it doesn't make sense to say "See it as rectangle", "See it as being red". (RPP II, §545)

(b) That an aspect is subject to the will is not something that does not touch its very essence. For what would it be like, if we could see things arbitrarily as red or green. How in that case would one be able to learn to apply the words "red" and "green". First of all, in that case, there would be no such thing as 'red object', but at most an object which is more easily seen red than green. (RPP I, §976)

(c) Seeing an aspect and imaging are subject to the will. There is such an order as "Imagine *this*" and also: "Now see the figure like *this*": but not: "Now see this leaf green". (PI IIxi, 213)

Now, an immediate response to (a) is that yes, there is a limit to what the will can do here, but it is neither colour nor shape *per se* that are the problem. It might not make sense to ask someone to try to see something that looks round as rectangular, but that doesn't mean it never makes sense to say: 'try to see this as rectangular'. This is indeed something one might say if the shape of the

ground is rectangular and one thinks one's interlocutor isn't aware of the shape precisely because it is the ground rather than the figure. Similarly, turning to (b), it might not make sense to exhort some to try to see something that looks *red* as green, but it might make sense to ask him to try to see something that looks *blue*, or *grey*, as green, if one thinks, for example, that background colours are affecting his perception. It might not work, of course, but it is not a senseless undertaking. Finally, with respect to (c), an intuitive response would be, well, in the sense in which subjection to the will would make learning about objective colour impossible, it would also make learning to detect objective vases impossible. However, there is also a sense, for both, in which there is nothing threatening to the objectivity of a property if there is a link between perceiving it and willability. For example, one might say 'try to see this as green, because that is the colour it really is and your perception is distorted by background colours'.

The idea that the willability of aspects excludes shape perception from counting as aspectual because it makes no sense to exhort someone to try to see a shape is not, then, very promising. Intuitively, what matters here is not whether or not it makes sense to ask someone to try, but whether it makes sense to actually try, and, in particular, what *explains* the success or failure of any such attempt. In these terms, I think Wittgenstein's central intuition is that with respect to shape and colour and other properties of the world out there, the explanation of whether or not we succeed in seeing them is due, at least in part, to the way the world is: and, what's more, that this fact should show up in the account we give of the phenomenology of perceptual experience. And he holds that there is something about organizational aspects that requires a different type of explanation. What we do not have yet is a clear account of why and in what sense this might be so.

This is where I think advances made in psychology can be of some help, though they also raise new problems. To get there, I

want to pick up on a hint we find in Wittgenstein of another way of looking at the link between the will and aspects, which is, potentially, more promising. Suppose, with Wittgenstein, that there is a constitutive link between aspectual seeing and the will. An immediate question is: how does the will get into 'seeing as' in the first place? This is especially pressing for Wittgenstein, for his chief reason for agreeing with Gestaltists that aspectual seeing is not interpretation is that 'seeing is a state' in particular a state of consciousness, where the mark of such states is that they have genuine duration, whereas interpreting, in contrast, is an activity (*RPP II*, §43).

There is an intuitive response to the question, namely that the will is integral to the experience of aspect changes in virtue of the role of attention. It would, I think, be an exaggeration to say that Wittgenstein developed this line of thinking in much detail, but it is there, and there is every reason to think he would have been sympathetic to pursuing it.

First, re attention and activity:

Attention is dynamic, not static—one would like to say. I begin by comparing attention to gazing but that is not what I call attention; and now I want to say that it is *impossible* that one should attend statically. (*RPP II*, §512 (Z. 673))

Second, re this activity and aspect changes:

Now one says: I can take lines together in copying, but I can also do so by means of *attention*... (*RP I*, §1115)

When I see a change of aspect, I am *occupied* with the object.

I am occupied with what I am now noticing, with what strikes me. In that respect, change of aspect is like an action.

It is a paying of attention. (*LW*, §§14-15)

We can produce a change of aspect, and it can also occur against our will.

Like our gaze, it can follow our will. (*LW*, §612)

Admittedly, this is not a lot to go on. But I propose to read these comments as putting forward for further examination the following suggestion. The way in which activity gets into the experience of seeing is via the activity of attending to objects; and the subjection of aspects to the will is in some way linked to the active nature of attention. The questions now are, what exactly this might mean, and how, if at all, this might help with the idea that objective shape perception and aspectual ingredients in perception should be sharply distinguished. Before addressing this question directly, and relating it to the paradox and a potential solution to it, I want to have before us a brief account of some of the key changes, relative to Kohler, in the way psychologists now approach figure/ground segmentation and its relation to attention.

8. The Psychological Turn and the Role of Attention

Current psychological approaches to organizational phenomena invariably begin with the Gestaltists' phenomenological descriptions and *ceteris paribus* 'laws', before digging in 'deeper', into the computational solutions. As Stephen Palmer presents it, the phenomenological gestalt laws deliver generalizations about the properties of stimuli that, all things being equal, will yield one rather than another organization. This is where principles of grouping fit in, for example the 'principle of proximity' which says that elements that are closer together tend to be perceived as belonging together; or the 'principle of similarity' which says that items with similar properties, e.g. same colour, tend to be grouped together. And many others. These laws do not, however, address the question of *why* these principles hold. Another thing lacking, and this is what is important for Palmer, is an account of *how* they

get implemented. Or, rather, the Gestaltists appealed to the dynamical working of the brain to answer both questions and this is what is rejected in current accounts.

In current work, in response to the 'why' question, psychologists often rely on evolutionary ecological appeals to the way the world is. By and large things of the same colour are part of a single unit in nature and so forth. As to the second, 'how' question, the major revolution, from the perspective of psychology, lies here. It is now taken for granted that the 'how' question is an information processing question, answers to which will appeal, at least in part, to derivations of progressively sophisticated representations from a representation of the distribution of light intensities on the retina.

Before turning to the potential significance, for Wittgenstein, of current answers to the 'how' question, it will be useful to have before us the following state-of-the art introductory summary of the relation between gestalt phenomena and attention, as conceived of within this new framework.

Figure-ground segmentation is the process by which the visual system organizes a visual scene into figures and their background. This is one of the most important visual processes because figure-ground distinctions are fundamental to the visual perception of objects and to visuomotor behaviour...An important yet unresolved issue concerns the relation between figure-ground segmentation and attention.... Many modern theories have assumed that figure-ground segmentation operates pre-attentively to deliver the perceptual units to which focal attention is allocated for further processing.... Although this view has been widely accepted, researchers have also suggested that deliberate fixation or spatial attention ...can influence figure ground organization. Gibson (1994) showed that fixation location can contribute to figure-ground segmentation. Baylis and Driver (1995) examined performance on a contour-matching task with ambiguous figures and showed that endogenous attention influences figure-ground assign-

ment; their experiments suggested that exogenous attention did not influence figure ground performance. However, some recent research...using the same contour matching task with similar ambiguous figures, showed that exogenous attention can influence figure-ground assignment, provided the exogenous cues are located inside the figure-ground display. ... (Kimchi and Peterson 2008, 660)

How would this way of posing questions have affected Wittgenstein's approach to the problems he was concerned with? On one view, we can say in advance that it would not and could not have helped. Wittgenstein repeatedly says that his puzzles are conceptual, not causal, and it might be claimed that all of this appeal to information processing is exactly akin to the appeal to physiology to explain gestalt phenomena. Here is what he has to say about the latter:

Imagine a physiological explanation of this experience. Let it be this: when we look at the figure, our eyes scan it repeatedly, always following a particular path. This path corresponds to a particular periodic movement of the eyeballs. It is possible to jump from one such pattern to another and for the two to alternate (double cross). Certain patterns of movement are physiologically impossible, hence I cannot see the duck-rabbit as the picture of the head of a rabbit superimposed on the head of a duck, nor can I see the schematic cube as the picture of two interpenetrating prisms. And so on.—Let's assume that this is the explanation.—"Yes, now I know that it is a kind of seeing." You have now introduced a new, a physiological criterion for seeing. And this can screen the old problem from view, but not solve it.—The purpose of this remark is to bring before your view what happens when a physiological explanation is offered. The psychological concept hangs out of reach of this explanation. (PI Ixi, 212c) ⁴

Now it is indeed possible to take the view that Wittgenstein would have regarded all talk of information processing in a similar way, as introducing a 'new criterion of seeing'.⁵ In particular, it

might be held, he would have claimed that all talk of information processing still leaves the 'psychological concept hanging out of reach of explanation'. My own view is that not only is this kind of blanket response a mistake, but, also, that there is no reason to believe that Wittgenstein would have made it.

First, very generally: while there is an obvious switch in concept-type between our everyday psychological concepts and the concepts used in physiology, the same cannot be said, at least not as immediately or obviously, about information processing explanations of perception. After all, the concepts used in such theories, 'representation', 'computation', 'segmenting', 'comparing' and so forth are all *prima facie psychological* (as opposed to physiological) concepts. So work is needed in order to show that the way psychologists use them in explaining perception involves a change of subject matter, via a change of concept.

The question of the relation between the concepts used in vision science, say, and our ordinary concepts of seeing is one, if not *the* conceptual issue we need to deal with now (an issue which, in its current form, simply did not exist at the time Wittgenstein was writing). It might be that Wittgenstein would have been persuaded by claims to the effect that the way psychologists use these concepts introduces a new concept of vision (the so-called 'two-concept' claim). But it is equally plausible that he would not have. In particular, with respect to the specific problems we are considering, an alternative view is that he would have examined these developments in psychology and judged them on their *specific merits*, in order to see whether the new framework (a) helps to dissolve what he took to be confusions in the way Kohler approached gestalt phenomena, and (b) helps with the particular question of what do with organizational properties of experience. There is nothing in Wittgenstein, as I read him, that encourages ascribing to him an *a priori* rejection of such an approach, and from now on I

shall proceed on the assumption that he would have at least been open to seeing what if anything it might deliver.

There are two specific features of current psychological theorizing about organizational properties and their relation to attention which would, I suggest, be of particular interest to Wittgenstein. I introduce them and the questions they raise in this section, and in the final section exploit them in sketching a solution to the original paradox.

One way of registering the enormity of change in psychological theorizing is to note that Wittgenstein's main target, Kohler's New Object Claim, has simply disappeared from view. Any talk of internal phenomenal objects has melted away to be replaced by talk of visual processes and activities of segmenting and computing over representations. It is representations all the way down, as it were, with the only objects that enter the story being the external objects perceived.

Kohler gave the New Object Claim two roles. The first was to explain the phenomenal sense in which everything has changed. Second, more ideologically, he used it to counter the introspectionists' claim that what has changed is due solely to interpretation. One major question is: how would Wittgenstein's understanding of the paradox, let alone his solution to it, look relative to potential explanations of sameness and difference now on offer in psychology, which, like his own, though for different reasons, eschew all talk of internal new objects?

This is one of the questions I take up in the next section. Turning now to the question of how, in particular, organizational properties of experience should be dealt with, much turns, I suggest, on the way attentional control is currently thought about. According to Wittgenstein, as we saw, the relation between gestalt switches and attention is not merely causal, *contra* Kohler. This seems right, but it is very difficult to explain how this could be so when we have a picture according to which that which is purely visual (in

the particular sense of not being a matter of interpretation) is, from the subject's perspective, constitutively passive and independent of the will, as Kohler had it. Something is wrong with this picture. We need a way of making sense, theoretically, of what is available to us on everyday reflection—the idea of a necessary link between the phenomenology of experience and the will which is, at the same time, consistent with the phenomenology not being due to the exercise of interpretational capacities.

It is here, I suggest, that attention and information processing theories thereof come into their own. According to the psychologists Daniel Kahneman and Avishai Henik the '...enduring fascination with the problem of attention can perhaps be traced to the nature of selective attention as a pure act of will (James 1890) which controls experience'(Kahneman and Henik, 1981). The concept of attention they employ, which has its origins in William James, and is in widespread use in current information processing approaches to attention, is one on which (conscious, personal level) attention is, at the same time, selection of information for further processing. John Campbell, in his paper 'Wittgenstein and Attention', suggests that we should treat the various information processing accounts of the mechanisms involved in such selection and further processing as the non-conscious sub-personal cognitive components of what the *subject does* when attending (Campbell 2000); or, in the terms of the above quotation, sub-personal ingredients in attention, where the latter is conceived of, essentially, as a possible expression of will.

This seems to me in general to be the right kind of approach to attention. Its importance is not restricted to gestalt phenomena and to the role of attention in controlling them. The concept of attention is, arguably, the central 'bridge concept' currently in play in linking personal level everyday psychological descriptions of perception with information processing accounts thereof, along the lines just sketched. From the perspective of our puzzle,

though, the question is whether and how this way of looking at attention provides for a satisfactory cashing of the specific intuition Wittgenstein is wrestling with, the idea that there is something different, essentially, about the explanation we should give of various gestalt properties of the experience, on the one hand, and colour and shape, on the other, and that this is linked, in some way, to the fact that attention is subject to the will.

I begin the next section with a sketch of an answer to the latter question, and then turn to a more general reflection on how the paradox looks relative to current psychological approaches to perception.

9. Revisiting the Conceptual Turn: The Shape of A Possible Solution

Consider the following rendering of the Two-Tier Claim. In accounting for the phenomenology of object perception, we must single out a layer of phenomenology that is distinct from the phenomenology due to the apparent properties of perceived 3D objects, in the following sense. There is an activity of border assigning, idiosyncratic to the way the visual system works, which shows up in phenomenology as a 'belonging together', which is subject to various kinds of attentional interventions. The phenomenological manifestation of this is indeed distinct in kind from the manifestation in experience of presented properties of objects, e.g. their shape, precisely in being a manifestation in phenomenology of a psychological *process* or *activity*, thereby introducing a degree of absence of transparency into the phenomenology. That is, the phenomenological properties are not due to the way the world is taken to be, but to the way the visual system operates.

If we take something like this line, it allows us to expand on Wittgenstein's objection to Kohler's New Object Claim as follows. The 'belonging together' in phenomenology is radically different

from the way perceived colours and shapes show up precisely in not being a showing up in phenomenology of an apparent property of an object, new or old, but, rather, a phenomenological aspect of experience which is due to the kinds of activity involved in generating the experience, a manifestation in experience of *how* we succeed in alighting on objects in perception. But that this is so is hard to see because of the dominance in our philosophical and psychological theorizing about phenomenology of the transparency thesis, which says that the phenomenal character of experiences is due to the apparent properties of the object experienced. Philosophers then argue (a) about the metaphysical status of these perceived entities, in particular whether these are sensations or ordinary external objects; and (b) about whether transparency is due to the representational content of an experience or due to the properties of the object that is a constituent of the experience. But with respect to organizational properties, appeal to objects and their apparent properties is neither here nor there, as they are aspects of experience which accrue to it in virtue of the kind of activity involved in perceiving.

It might appear that, in principle, this approach would have been open for formulation at the time Wittgenstein was writing, and that vision science is not adding anything new. After all, it might be claimed, there are echoes here of various ‘adverbial theories’ of sensation, but restricted to a specific subset of phenomenal properties—those not due to properties of objects perceived—and this is a kind of move that is available independently of any appeal to information processing. However, while there are indeed such echoes, the point of introducing appeal to activity here does, in fact, rely specifically on a kind of appeal to information processing that was not available to Wittgenstein. If we think ourselves back to the framework Wittgenstein was assuming, any reference to a process or activity of ‘taking together’, considered as a psychological process, could only come in on a personal level. But this

is *too late*, for the phenomenology we are talking about. The latter is something that from the subject’s point of view is fixed prior to any explicit moves of anything that might be called a ‘taking together by the subject’. This is what motivates Kohler’s Pure Vision Claim, and Wittgenstein is alive to this motivation, which leads him to reject the introspectionists’ claim that organizational aspects enter into phenomenology via the subject’s interpretation of pure visual data. However, if we think of the modified activity as a sub-personal one that delivers phenomenology, for the subject, we avoid this problem—there is a sense in which the organization is ‘given with the given’, from the subject’s perspective. Or rather, we do so in a way consistent with Wittgenstein’s main intuitions here, only if we can, at the same time, establish a link with something the subject herself does, in virtue of which it is right to speak of organizational aspects as modifications of a *subject’s* activity. It is here, I suggest, that appeal to attention, as currently conceived of, plays a critical role, both in providing an explanation of what is going on, and in suggesting a diagnosis of why we are puzzled.

According to the picture sketched in the previous section, attending to objects, something the subject does, often involves and always *can* involve, the sub-personal activity of border assignment—this is part of the process of selecting information for further processing. In this sense, the ‘taking together’ is a modification of the activity of attending. Because it is done sub-personally, when we reflect on it and notice it we are baffled, and tend to convert the property into a property of objects rather than one of activity, and look around for an object to assign it to. Once we have the idea of an activity with sub-personal components, though, we can do justice to the idea that organizational phenomena are in some sense more primitive than, or phenomenologically prior to, anything we actively do on the personal level—being the product of the workings of sub-personal information processing mecha-

nisms—and, at the same time, essentially subject to the will, as Wittgenstein says, in virtue of their link with attention.

Of course we cannot directly ascribe any such view to Wittgenstein. The suggestion is, rather, that the phenomena he is alighting on are important at least partly because they point the way towards the need for solutions only made possible with the framework of current ways of thinking of perception (broadly speaking).

So much for the way in which attention might be appealed to in explaining the different status of organizational properties of experience. I want to end where we began, with the paradox, and with the question of how developments in psychology might have influenced Wittgenstein's approach to a solution.

The paradox was: 'What is incomprehensible is that *nothing*, and yet *everything* has changed, after all'? How does it look when we have in play current approaches to vision? Well, if we adopt the account just sketched of organizational properties and go on to use it as a first step in a solution to the paradox, we get the following claim. What changes, prior to the reflective awareness of a gestalt switch, is the manifestation in the phenomenology of object-seeing of the way in which the visual system arranges boundaries, something over which we have (limited) control. (The Prior Change Claim).

What about that which stays the same? What should we say, in particular, about the Constancy Claim? Earlier I distinguished the Prior Sameness Claim from *post hoc* readings of the claim that everything remains the same, and suggested that Wittgenstein appears to have been committed to the former, as part of his initial objection to the New Object Claim—postulating a new object falsifies a basic ingredient in the phenomenology. Suppose we rid ourselves of Kohler's version of the New Object Claim, by appeal to the framework we used for interpreting the Prior Change

Claim. Is there any justification, psychological or philosophical for holding onto the Prior Sameness Claim?

Certainly, as psychologists currently see it, when I switch from one figure/ground segmentation to another, I am attending first to one object and then another. In this sense, the pictures used as demonstrations are misleading. It is true that there is a picture in common when I flip from one to another, and perhaps even true that reference to it enters into an account of the phenomenology of each experience, pre- and post- switch. But the object that matters, from a psychological perspective, is the picture-object, one cross rather than another, a vase rather than a double profile. It is this kind of object that is relevant to understanding how the visual system works in real life. The taking together by the visual system is the first step in singling out one area of the visual field rather than another as an object. There is no prior common object of attention. Rather, the 'object' in common is something I single out as such *post hoc*, correlatively with noticing the change in organizational aspect.

Note, the objects that change, on this account, are real world objects, and not a special brand of phenomenal object, as envisaged by Kohler, not 'new' in that sense. Part of what makes this rendering of the New Object Claim possible is the conception of organizational properties as upshots of information processing activity, the aim of which is to deliver information about objects out there. Wittgenstein's theoretical objection to Kohler's version does not get a grip here. All that remains is the phenomenal intuition, as expressed by the paradox. But once we have the real world reading of the New Object Claim in place, I suggest, the urge to find a real phenomenal commonality of shape or object between the experiences pre- and post- switch also recedes. It has no more phenomenological compellingness than the *post hoc* solution. For, on the face of it, the phenomenological intuition expressed by the paradox leaves it open that it is the phenomenology of the *second*

sense of 'see', aspect seeing, that we need to account for when doing justice to the 'no change' ingredient in the paradox, rather than the phenomenology of the experiences that precede it. If we adopt this *post hoc* reading of the sameness intuition, the solution to the paradox takes something like the following form. There is prior change, in organizational aspects, but only *post hoc* sameness, constructed as apart of the experience of an aspect dawning. The Constancy Claim is rejected.

This is more or less the reverse of the solution one might plausibly attribute to Wittgenstein on the basis of the passages in *The Investigations* discussed earlier on. However much of the point of his distinction between the two senses of 'see' is retained. The 'half thinking, half seeing', referred to by the second sense of 'see', is expanded to include in its content not only the noticing of a phenomenal similarity to one rather than another class of objects, but also the 'noticing' of a common shape, constant between changes in organization. The difference between these noticings is that the noticing of the phenomenal similarity is a noticing of features made phenomenally salient by the organizational properties of the preceding experiences, whereas the phenomenal constancy of the shape, and a common object to go with it, are only constructed *post hoc*.

Would Wittgenstein have been happy with this kind of solution? It is not clear to me that this is something the texts resolve. But one thing we can say for certain is that contrary to what he supposed, at least some of the puzzles he was grappling with, in particular Kohler's version of the New Object Claim, were due to, or shaped by, the youth of the science at the time he was writing. That is, there are ways out of his *conceptual* puzzle, more or less the reverse of what he might be plausibly read as suggesting, that are made available due to *empirical* developments in psychology. But there are two major respects in which I take this kind of appeal to information processing to be in line with general Wittgenstein-

ian themes. The first is that it provides for the kind of non-reductive demystification he was generally after in his account of phenomenology—in particular, all references to inner phenomenal objects are dispensed with. The second is that it incorporates the idea, much emphasized in *On Certainty*, that our concepts are permeable to empirical discoveries and evolve with them. The general idea that progress in science throws up new conceptual questions is certainly not alien to Wittgenstein's thought. At the time he was writing, though, this was hard to see with respect to psychological concepts because not much progress had been made and there was so much conceptual confusion. I think he would have regarded the information processing theories as an advance of a kind that both reduces confusion and can be appealed to in solving particular puzzles, the paradox being a prime example of such.

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Notes

1 Readers interested in a view as diametrically opposed to mine as it is possible to be, both generally and specifically with respect to vision, should look at Peter Hacker's 'The Relevance of Wittgenstein's Philosophy of Psychology to the Psychological Sciences'.

2 For attention to these passages in Kohler I am indebted to Janette Dinishak's illuminating PhD thesis on Wittgenstein and Kohler, 2008, published online.

3 For an excellent account of this strand in Wittgenstein's treatment of aspect seeing, see (Budd 1989, 90-99).

4 For attention to the significance of this passage in setting up the issues discussed in this section I am indebted to one of the journal's anonymous reviewers.

5 This is the approach taken by Peter Hacker in 'The Relevance of Wittgenstein's Philosophy of Psychology to the Psychological Sciences'.

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